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ABSTRACT

This study examined temperament characteristics in children with Down syndrome (n=191) when compared with normally developing children (n=388) matched according to broad developmental levels (infancy, toddlerhood, early childhood, and early school age). The study looked for: (1) possible differences in temperament between children with Down syndrome and normally developing children; (2) possible differences in temperament across the developmental levels of infancy, toddlerhood, preschool, and early childhood; and (3) possible differences in category placement based on condition, developmental level, and level of measurement differences. Mothers completed the Parent Temperament Questionnaire rating scale of child temperament. The study found that there are child condition and developmental influences on mothers' evaluations of children's temperament. Children with Down syndrome were considered more approachable, more soothable, more positive in mood, and less persistent than normally developing children. Differences in temperament associated with developmental level were also found. Placement among the categories of "easy," "difficult," or "moderate" varied as a function of comparison group. Eight attached tables detail study findings. (DB)

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Temperament in Children with Down Syndrome

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ABSTRACT

The purpose in this study was to examine temperament characteristics in children with Down syndrome and to consider the effects of condition, chronological age and measurement on these characteristics. This presentation addresses three questions: Are there differences in temperament between children with Down syndrome and normally developing children? Are there differences in temperament across the developmental levels of infancy, toddlerhood, preschool, and early childhood? Are there differences in category placement based on condition, developmental level, and level of measurement differences? Significant differences were found in each of these areas.

Subjects

The subjects of this study were 191 children with Down syndrome and 388 normally developing children matched according to the developmental levels of infancy, toddlerhood, early childhood, and early school age. The sample was predominantly white, middle-upper class, and English-speaking. In both groups, approximately half of the mothers were employed outside the home. The sample was evenly divided between boys and girls and there were no significant differences on any of the demographics collected between the families of children with Down syndrome and the families of typically developing children.

Procedures

Mothers of children with Down syndrome and normally developing children were recruited from local agencies. Maternal ratings were measured with the short form of the Parent Temperament Questionnaire (PTQ) (Keogh, Pullis, & Cadwell, 1980). This instrument contains 23 items rated on a scale of 1 (hardly ever) to 6 (almost always). This instrument is based on the work of the New York Longitudinal Study (Thomas & Chess, 1977) and involves maternal ratings of child temperament organized into the dimensions of approach/withdrawal, adaptability, intensity, threshold of responsiveness, distractibility, persistence, and mood.

Categories were determined in two ways; by analyzing maternal responses to individual items on the PTQ and by asking mothers to directly categorize their child as easy, difficult, slow-to-warm, or none of these.

Findings

The major findings in this study are that there are child condition and developmental influences on mothers' evaluations of children's temperament. Children with Down syndrome were considered more approachable, more soothable, more positive in mood, and less persistent than normally developing children. Difference in temperament associated with developmental level were found as well, with infants considered more approaching, more soothable, more positive in mood, and less intense than toddlers, preschoolers and early school age children.

In addition, placement among the categories of easy, difficult and intermediate for children with Down syndrome varied as a function of the comparison group. When a normative group was used as the comparison group, children with Down syndrome were over represented in the easy category and underrepresented in the difficult category.

Discussion

These positive findings have not been consistently reported in previous studies of temperament in children with Down syndrome The differences in findings may be explained, in part, when the dual influences of developmental level and child condition are taken into consideration. In the present study, children with Down syndrome were compared to normally developing children on dimension scores, category distributions, and as a subset of normally developing children. The only comparison on which there were no significant differences between children with Down syndrome and normally developing children was on the comparison most often used to consider differences between these two group - distribution among the categories using separate group means.

Findings from the present study become most practical when combined with findings from work with children with Down syndrome in other areas. Kasari, Mundy, Yirmiya, and Sigman (1990) found that in a situation in which there was an opportunity to attend to both an object and a person, children with Down syndrome looked more often at the person and less often at the toy than did normally developing children. These behavioral characteristics shared by children with Down syndrome may be related to differences in temperament, and may actually be associated with differences in learning styles in children with Down syndrome.

In a study focusing on the effect of temperament in the school setting, Keogh & Burstein (1988) found that low distractibility, high persistence, and moderate levels of activity are temperament characteristics that contribute to success in the typical school environment. Since results from the present study indicate that children with Down syndrome vary in a negative direction on two of these three dimensions, it is possible to postulate that the typical school environment is not conducive to learning for children with Down syndrome.

One value in identifying differences in temperament in children with Down syndrome is to better predict those situations in which specific temperament characteristics will contribute in a positive way to the demands of a particular situation, and to identify those situations in which there may be a need for intervention. The present study has identified a specific profile of children with Down Syndrome from maternal reports which supports the stereotype of children with Down syndrome as happy, mild, and easy to manage. Although this profile may serve as a protective factor in the home environment, it may actually place children with Down syndrome at risk for learning problems in the typical task and object oriented school environment.

References

Keogh, B. K., & Burstein, N. D. (1988). Relationship of temperament to preschoolers' interactions with peers and teachers. Exceptional Children, 54(5), 456-461.

Keogh, B. K., Pullis, M. E., & Cadwell, J. (1980). Project REACH. Technical report, University of California, Los Angeles, Graduate School of Education.

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Table 1

Sample Description

	Total	Down Syndrome	Normally Developing
Infants	N=95	N=23 12.1 months (2.9)	N=72 9.7 months (2.3)
Toddlers	N=180	N=66 26.6 months (6.0)	N=114 29.6 months (4.6)
Preschoolers	N=192	N=56 49.2 months (7.3)	N=136 45.4 months (6.5)
Early School Age	N=112	N=46 71.5 (7.1)	N=66 69.5 months (5.3)
	Total = 579	Down syndrome = 191	Normally Developing = 388

Note: Each cell was balanced for gender. No significant sex differences found.

Table 2

Comparison of means and standard deviations of dimensions by condition

	Down Syndrome	Normally Developing	
Adaptability	5.00 (1.08)	4.98 (.94)	
Approach/With	4.34 (1.14)	3.92 (1.23)***	.0001
Distractibility	4.67 (1.02)	4.28 (1.13)***	.0001
Intensity	3.54 (.91)	3.52 (.94)	
Mood	5.04 (.86)	4.72 (.86)***	.0001
Persistence	3.81 (1.10)	4.10 (1.10)*	.01
Threshold	2.17 (1.31)	2.42 (1.28)	

Table 3

Comparison of means and standard deviations of dimensions by developmental level

	Infants	Toddlers	Preschool	Early School	
Adaptability	5.13	4.89	4.91	5.04	
	(1.04)	(1.03)	(.98)	(.91)	
Approach/With	4.36	3.85	3.89	4.15*	.01
	(1.06)	(1.22)	(1.21)	(1.24)	
	A	B	B	AB	
Distractibility	4.93	4.37	4.36	4.23***	.0001
	(.98)	(1.10)	(1.08)	(1.11)	
	A	B	B	B	
Intensity	3.13	3.72	3.51	3.53***	.0001
	(.94)	(.86)	(.88)	(.99)	
	B	A	A	A	
Mood	5.40	4.91	4.65	4.54***	.0001
	(.87)	(.86)	(.75)	(.79)	
	A	B	C	C	
Persistence	3.90	3.80	4.07	4.16	
	(1.32)	(1.12)	(.92)	(1.09)	
Threshold	2.28	2.24	2.28	2.34	
	(1.44)	(1.24)	(1.27)	(1.18)	

Note: Means with the same letter are not significantly different

Table 4

Categorization of children for the total sample and by condition

		Total Sample	DS	ND
Easy	(40%)	43%	44%	43%
Intermediate	(50%)	47%	46%	47%
Difficult	(10%)	11%	10%	10%

Table 5

Categorization of children for the total sample by developmental level

	Infants	Toddlers	Preschool	School Age
Easy	49%	45%	39%	42%
Intermediate	46%	43%	49%	46%
Difficult	05%	12%	12%	12%

Table 6

Categorization of children by condition by developmental level

	School Age		Infants		Toddlers		Preschoolers	
	DS	ND	DS	ND	DS	ND	DS	ND
Easy	46%	39%	38%	51%	50%	42%	39%	38%
Intermediate	41%	50%	48%	46%	41%	44%	52%	49%
Difficult	13%	11%	14%	03%	09%	14%	09%	13%

Table 7

Categorization of children with Down syndrome according to the Down syndrome group mean and the normally developing group mean

Comparison group		DS Mean	ND Mean
Easy	(40%)	43%	56%
Intermediate	(50%)	46%	37%
Difficult	(10%)	10%	07%

Table 8

Categorization of children with Down syndrome according to the Down syndrome group mean and the normally developing group mean by developmental level

	School Age		Infants		Toddlers		Preschoolers	
Comparison Group	DS	ND	DS	ND	DS	ND	DS	ND
Easy	46%	61%	38%	38%	50%	59%	39%	57%
Intermediate	41%	33%	48%	52%	41%	35%	52%	36%
Difficult	13%	06%	14%	10%	09%	06%	09%	07%